



# *Misunderstanding Regarding IUR Applicability to Product Manufacturers*

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# *Introduction*

- We manufacture products, not chemicals
- EPA's Perspective
  - Most chemical byproducts subject to IUR
  - Interpretation applicable to any manufacturing process that uses chemicals



# *Who has to Report?*

40 CFR §710.48 – Persons who must report

...Any person who manufactured (including imported) for commercial purposes 25,000 lbs. or more of a chemical substance described in §710.45 at any single site owned or controlled by that person at any time during calendar year 2005...



# *Activities for which Reporting is not Required*

40 CFR § 720.30(h)

The chemical substances described below:  
(Although they are manufactured for commercial purposes under the Act, they are not **manufactured for distribution in commerce as chemical substances per se** and have no commercial purpose separate from the substance, mixture, or article of which they are a part.)...(2) Any **byproduct** which is not used for commercial purposes...

*(Emphasis Added)*



# ***Byproduct Definition***

## 40 CFR § 710.3 Definitions

Byproduct means a chemical substance produced without separate commercial intent during the manufacture or processing of another chemical substance(s) or mixture(s).





# *One Example of EPA Interpretations Gone Amiss*

- Wastewater treatment sludge
  - Formed when wastewater is treated to comply with CWA requirements for metals removal
  - Metal hydroxides are precipitated from the wastewater and coagulated to form sludge
- According to EPA, if the sludge is recycled for metals recovery, the sludge must be reported as a new chemical



# *Activities for which Reporting is not Required*

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*(Emphasis Added)*



# *One Example of EPA Interpretations Gone Amiss*

- Sludge is not eligible for exemption
  - Byproduct is used for commercial practices (recycling into a new product)





# *Activities for which Reporting is not Required*

40 CFR § 720.30 (g)

Any byproduct if its only commercial purpose is for use by public or private organizations that (1) burn it as a fuel, (2) dispose of it as a waste, including in a landfill or for enriching soil, or (3) **extract component chemical substances from it for commercial purposes.** (This exclusion only applies to the byproduct; it does not apply to the component substances extracted from the byproduct.)

*(Emphasis Added)*



# Component Chemical Substances

- 40 CFR § 720.30(g) Byproducts exempt if only commercial purpose is to “*extract component chemical substances*”
  - What is a “component chemical substance?”



# ***Metals as Component Chemical Substances***

- Metals have different physical and chemical properties than organics
  - Unlike organics, metals are neither created nor destroyed by chemical processes
  - Inorganic reactions involve the gain/loss of electrons (oxidation-reduction reaction)
  - EPA Metals Framework
- IUR now requires reporting of inorganics such as metals
- Previous organics guidance interpretation may not be appropriate for metals



# *EPA Position*

- “The Agency considers an elemental metal to be a different chemical substance than a metal salt or a metal compound. Each of these *chemical* “forms” (elemental metal, metal salt, and metal compound) has a different molecular structure and is, therefore, a different chemical substance for Inventory purposes.
- “The wastewater treatment sludge is the primary product”





# *Metals as Component Chemical Substances*

- Metals exist as ions in a solution mixture
- Must be reduced for extraction to occur
- Reduction requires the acquisition of electrons from other substances by chemical reaction
- The resulting extracted metal is the same **component chemical substance** that is in the byproduct
- Is the intention to exclude all metals extraction from the byproducts exemption?





# *Final Thoughts*

- By EPA's interpretation, **any product manufacturer that uses chemicals is subject to IUR reporting**
- Byproducts that are not landfilled are subject to IUR, even if they are considered waste under RCRA
- Byproducts exemption ever applicable?



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